REMARKS

Claims 1, 4-13 and 16-21 are pending in this application. By this Amendment, the specification and claims 1, 13 and 16 are amended and claims 2, 3, 14 and 15 are canceled. Support for amended claims 1 and 13 may be found in the original specification at, for example, original claims 2, 3, 14 and 15, respectively. Claim 16 is amended to correct dependency. No new matter is added.

Reconsideration of the application is respectfully requested.

The courtesies extended to Applicants' representative by Examiner Shikhman at the interview held May 16, 2007, are appreciated. The reasons presented at the interview as warranting favorable action are incorporated into the remarks below and constitute Applicants' record of the interview.

Specification Objection

The specification was objected to for including attorney docket numbers instead of patent application numbers.

The specification is amended to replace the attorney docket numbers with patent application numbers. As such, withdrawal of the objection is respectfully requested.

Claim Objection

Claims 13-18 were objected to for including a grammatical error. In particular, claim 13 recited "critical of portions" instead of "critical portions."

Claim 13 is amended to replace "critical of portions" with "critical portions."

As such, withdrawal of the objection is respectfully requested.

Rejection Under 35 U.S.C. §112, Second Paragraph

Claim 3 was rejected under 35 U.S.C. §112, second paragraph as allegedly being indefinite. In particular, the Patent Office alleged that claim 3 was unclear as to whether or

not the "averaging" and "setting" features were executed in "pixel neighborhoods" or across the entire image.

Claim 3 is canceled, and thus this rejection is moot.

Rejection Under 35 U.S.C. §102(b)

Claims 1-11 and 13-21 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Ricardo L. de Queiroz, COMPRESSION OF COMPOUND DOCUMENTS (Xerox Corporation 800 Phillips Rd., 128-273, Webster NY, 14580) (hereinafter "Queiroz"). Applicants respectfully traverse this rejection.

Claim 1

Quieroz fails to teach or suggest a method for processing an image, including generating a hole-image by setting to zero pixel values of pixels identified to be less critical to the image, sub-sampling the hole-image, by averaging non-zero pixel values in pixel neighborhoods to obtain sub-sampled pixel values for the sub-sampled hole-image, averaging the non-zero sub-sampled pixel values of the sub-sampled hole-image to obtain an average value, and setting sub-sampled pixel values of zero to the average value of the non-zero sub-sampled pixel values, as recited in claim 1.

Quieroz discloses labeling non-useful pixels with an "X" (alleged "zero pixel value") and useful pixels with a "U." In order to replace the "X" pixels with another value, Quieroz uses a multi-pass algorithm where pixels marked with an "X" and that have at least one vertical or horizontal neighbor pixel that is labeled "U," the "X" labeled pixel is replaced by the average of those neighboring pixels labeled "U." This process is continued until there are no "X" labeled pixels left (see page 211, column 1).

In contrast, the current claims take the average of the non-zero pixel values in a pixel neighborhood that is generated from a hole-image (the "hole-image" is defined in the specification as part of the entire image that contains holes, see specification, paragraph

[0044]) and averages the non-zero pixel values of the neighborhoods that make up the hole-image. This averaged value of the non-zero pixel values of the neighborhoods that make up the hole-image replaces all of the zero pixel values for the pixels within the hole-image.

That is, the current claims allow for a less costly method that does not need an algorithm to be used at every "X" (alleged "zero pixel value") labeled pixel. The current claims find an average value of the non-zero pixels within a hole-image, and replaces all of the zero valued pixels within the hole-image with that value. In contrast, Quieroz uses a lengthy process of identifying and substituting each "X" valued pixel with the average of its neighboring pixels one at a time. Thus, Quieroz fails to teach or suggest each and every claim feature.

Claim 6

Quieroz fails to teach or suggest a method for processing an image to form a background plane and N-binary foreground planes, including inserting zeroes into pixel data for pixels in the background plane corresponding to areas which have been placed into one of the N-binary foreground planes, to generate a hole-image, sub-sampling the hole-image to obtain one or more blocks of sub-sampled pixel values, each of the sub-sampled pixel values having a non-zero value if a corresponding neighborhood has at least one non-zero pixel value, or a zero value if the corresponding neighborhood has all zero pixel values, averaging color values of non-zero sub-sampled pixel values in each of the blocks to obtain a block average color value for each of the blocks, and substituting sub-sampled pixel values of each of the blocks that are equal to zero to the block average color value of each of the blocks, as recited in claim 6.

Further to the arguments presented above for claim 1, Quieroz does not disclose the above features of claim 6, as Quieroz merely discloses a lengthy process of identifying and substituting each "X" (alleged zero pixel value) valued pixel with the average of its

neighboring pixels one at a time by use of an algorithm, and does not disclose averaging color values of non-zero sub-sampled pixel values in blocks to obtain a block average color value for each of the blocks, and substituting sub-sampled pixel values of each of the blocks that are equal to zero to the block average color value of each of the blocks, as required in claim 6. As such, Quieroz fails to teach or suggest each and every claim feature.

Claim 13

Quieroz fails to teach or suggest an apparatus that processes an image, including a sub-sampling processor that sub-samples hole-image data and averages non-zero data values in a block of sub-sampled hole-image data to obtain a block average value, and a pixel substitutor which substitutes the block average value of the non-zero data values for the zero values in the sub-sampled hole-image data, as recited in claim 13.

Further to the arguments presented above for claim 1, Quieroz does not disclose a pixel substitutor that substitutes the block average value of the non-zero data values for the zero values in the sub-sampled hole-image data. Quieroz merely discloses a lengthy process of identifying and substituting each "X" (alleged zero pixel value) valued pixel with the average of its neighboring pixels one at a time by use of an algorithm. As such, Quieroz fails to teach or suggest each and every claim feature.

Conclusion

For at least the foregoing reasons, claims 1, 6 and 13, and dependent claims thereof, are patentable over the applied reference. Thus, withdrawal of the rejection under 35 U.S.C. §102(b) is respectfully requested.

Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1, 4-13 and 16-21 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

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Date: July 3, 2007

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